



Water-Data Report 2008

01403540 STONY BROOK AT WATCHUNG, NJ

RARITAN RIVER BASIN

LOCATION.--Lat 40°38'11", long 74°27'05" referenced to North American Datum of 1983, Watchung Borough, Somerset County, NJ, Hydrologic Unit 02030105, on right bank at Watchung Borough Administration Building in Watchung, 150 ft downstream from bridge on Mountain Boulevard, 400 ft downstream from East Branch Stony Brook, and 2.9 mi upstream from confluence with Green Brook.

DRAINAGE AREA.--5.51 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--October 1974 to current year.

REVISED RECORDS.--WDR NJ-86-1: 1973 (P).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 162.24 ft above NGVD of 1929. Prior to Oct. 1, 1996, at datum 10.00 ft higher.

REMARKS.--Records fair. Occasional regulation from Watchung and Best Lakes directly upstream from station and other small lakes. Several measurements of water temperature were made during the year. Satellite gage-height and rain gage telemetry at station. Channel significantly enlarged and modified in 1991, and modified again in 1997 when the right wall was replaced.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug 2, 1973 reached a stage of 24.5 ft (from floodmark; adjusted to current datum), discharge, 10,500 ft³/s (highest since 1896; from slope-area measurements of peak flow).

PEAK DISCHARGES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and (or) maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct 27	0800	678	12.89
Feb 1	1915	422	12.35
Feb 13	1415	477	12.48
Mar 8	1515	843	13.18
Aug 15	1915	383	12.25
Sep 6	2030	*1,240	*13.77

01403540 STONY BROOK AT WATCHUNG, NJ—Continued

DISCHARGE, CUBIC FEET PER SECOND
WATER YEAR OCTOBER 2007 TO SEPTEMBER 2008
DAILY MEAN VALUES

Day	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	1.1	2.8	3.6	17	85	12	9.5	9.3	6.3	1.4	2.3	1.3
2	1.2	2.6	3.8	12	26	11	9.4	7.6	4.3	1.3	2.0	1.2
3	1.2	2.4	17	9.2	14	10	6.7	7.3	3.7	1.3	1.9	1.1
4	1.2	2.4	7.6	8.5	11	12	16	7.2	14	1.4	1.7	1.2
5	1.1	2.3	5.4	7.9	11	40	11	6.3	5.9	5.5	1.6	1.1
6	1.0	4.5	4.4	7.9	11	15	8.5	5.7	7.0	4.8	1.7	192
7	0.98	3.2	4.0	7.6	11	31	7.6	5.0	2.3	2.6	1.6	28
8	1.0	2.6	3.7	7.0	10	155	7.0	5.7	3.2	2.2	1.6	7.0
9	2.0	2.5	4.8	7.0	8.8	35	6.6	40	3.0	2.0	1.7	8.8
10	4.1	2.6	12	6.1	8.5	20	6.4	24	5.8	2.0	1.5	5.6
11	11	2.4	6.6	34	6.6	17	6.2	11	5.9	1.6	1.9	3.2
12	7.4	2.3	5.3	14	6.3	16	25	19	3.2	1.4	2.1	4.3
13	2.9	4.4	30	10	207	14	9.5	12	2.6	1.3	1.6	5.3
14	2.1	4.4	22	16	39	12	7.9	9.3	2.7	9.9	1.8	4.8
15	1.9	5.3	12	12	21	12	6.9	8.1	4.0	2.8	40	3.5
16	1.8	4.6	17	9.3	17	11	6.4	27	2.9	1.9	9.7	2.7
17	1.7	3.1	12	8.5	17	9.7	6.2	25	2.6	1.5	2.7	2.4
18	1.6	2.8	8.3	35	50	8.8	5.9	15	2.5	1.5	2.3	2.2
19	4.0	4.2	7.5	15	23	44	5.7	12	2.3	1.3	1.9	2.2
20	4.3	8.2	8.7	11	16	47	5.5	23	2.1	1.3	1.7	2.1
21	2.1	6.7	8.3	8.6	13	17	5.3	15	1.9	1.4	1.6	2.1
22	1.8	3.7	7.8	7.9	13	14	5.0	12	2.0	1.3	3.1	2.0
23	3.5	3.0	66	7.8	13	12	4.7	9.7	2.0	30	2.2	2.0
24	2.5	2.6	28	6.8	11	11	4.4	8.3	1.9	37	1.5	1.9
25	2.9	2.6	13	6.1	11	10	4.1	7.3	1.7	5.1	1.4	1.9
26	2.8	27	11	5.7	14	9.5	5.6	6.4	1.7	3.2	1.3	30
27	87	12	21	5.6	22	8.9	6.0	6.4	4.4	17	1.2	6.2
28	8.5	6.7	11	5.5	14	8.6	48	5.8	0.92	6.8	1.2	6.6
29	4.4	7.3	52	5.2	10	7.7	22	4.9	0.98	3.5	1.2	8.1
30	3.5	4.4	16	8.1	---	6.9	11	4.4	1.2	2.8	3.2	4.6
31	3.0	---	29	5.9	---	7.0	---	7.5	---	2.5	1.8	---
Total	175.58	145.6	458.8	328.2	720.2	645.1	290.0	367.2	105.00	159.6	103.0	345.4
Mean	5.66	4.85	14.8	10.6	24.8	20.8	9.67	11.8	3.50	5.15	3.32	11.5
Max	87	27	66	35	207	155	48	40	14	37	40	192
Min	0.98	2.3	3.6	5.2	6.3	6.9	4.1	4.4	0.92	1.3	1.2	1.1
Cfsm	1.03	0.88	2.69	1.92	4.51	3.78	1.75	2.15	0.64	0.93	0.60	2.09
In.	1.19	0.98	3.10	2.22	4.86	4.36	1.96	2.48	0.71	1.08	0.70	2.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 2008, BY WATER YEAR (WY)

	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	7.12	9.34	12.1	13.4	12.1	17.0	15.9	11.1	6.92	6.21	4.12	5.63
Max	33.3	25.6	37.1	37.5	24.8	45.0	45.4	37.8	29.1	32.1	18.4	30.8
(WY)	(2006)	(1996)	(1984)	(1979)	(2008)	(1994)	(2007)	(1989)	(2003)	(1975)	(2000)	(1999)
Min	0.81	1.48	1.21	1.08	1.86	4.03	3.89	2.83	1.80	0.55	0.75	0.87
(WY)	(1995)	(2002)	(1999)	(1981)	(2002)	(2006)	(1985)	(2005)	(1999)	(1999)	(1998)	(1983)

01403540 STONY BROOK AT WATCHUNG, NJ—Continued

SUMMARY STATISTICS

	Calendar Year 2007		Water Year 2008		Water Years 1975 - 2008	
Annual total	4,273.38		3,843.68			
Annual mean	11.7		10.5		10.1	
Highest annual mean					16.0	1984
Lowest annual mean					3.96	2002
Highest daily mean	363	Apr 15	207	Feb 13	814	Sep 16, 1999
Lowest daily mean	0.98	Oct 7	0.92	Jun 28	0.00	Sep 18, 1982
Annual seven-day minimum	1.1	Oct 2	1.1	Oct 2	0.06	Sep 13, 1982
Maximum peak flow			^a 1,240	Sep 6	^a 5,380	Sep 16, 1999
Maximum peak stage			13.77	Sep 6	^b 20.40	Jul 14, 1975
Instantaneous low flow			0.56	Sep 5	0.00	Sep 13, 1982
Annual runoff (cfsm)	2.12		1.91		1.83	
Annual runoff (inches)	28.85		25.95		24.83	
10 percent exceeds	19		22		20	
50 percent exceeds	4.2		5.9		4.7	
90 percent exceeds	1.6		1.6		1.2	

^a From rating curve extended above 500 ft³/s on basis of step-backwater computation of peak flow.

^b Adjusted to current datum.

